

AMENDMENTS TO THE CLAIMS

Please amend claims 31 and 40, add new claims 49-52, and cancel claims 1-30, 32 and 41, as shown below. A complete listing of the claims, including their current status, is provided below:

1-30. (Cancelled)

31. (Currently Amended) A process for preparing a solid support capable of adsorbing a biomolecule, comprising:

- (a) providing a solid support comprising a surface coating having a surface reactive site **hydroxyl, carboxyl, amino or thiol group**;
- (b) contacting the surface coating with a plurality of monomers; and
- (c) polymerizing said monomers to produce a solid support having a surface tethered polymer covalently linked to said surface coating, said surface tethered polymer having at least one adsorbing moiety for adsorbing a biomolecule.

32. (Cancelled)

33. (Previously Presented) The process of claim 31, wherein a portion of said biomolecule is an linking moiety.

34. (Original) The process of claim 31, wherein said polymer is substantially linear.

35. (Original) The process of claim 31, wherein said polymer is a vinyl polymer.

36. (Previously Presented) The process of claim 31, wherein said adsorbing moiety is an amine group.

37. (Original) The process of claim 35, wherein said vinyl polymer is a poly-(vinylamine).

38. **(Original)** The process of claim 31, wherein said biomolecule comprises an oligonucleotide or polynucleotide.

39. **(Previously Presented)** The process of claim 31, further comprising polymerizing an additional non-nucleotidic polymer tethered to said surface coating, said non-nucleotidic polymer comprising additional adsorbing moieties for adsorbing additional biomolecules.

40. **(Currently Amended)** A process for preparing a solid support containing a probe biomolecule capable of hybridization to a target species, comprising:

- (a) providing a solid support comprising a surface coating having surface reactive site **hydroxyl, carboxyl, amino or thiol group,**
- (b) contacting the surface coating with a plurality of monomers; and
- (c) polymerizing said monomers to produce a solid support having a surface tethered polymer covalently linked to said surface coating, said surface tethered polymer having adsorbing sites for adsorbing biomolecules, wherein said surface tethered polymer is capable of assuming a plurality of conformations and exhibits sufficient mobility and flexibility such that the number of biomolecules adsorbed by the adsorbing moieties is maximized; and
- (d) contacting the surface tethered polymer with the probe biomolecule.

41. **(Cancelled)**

42. **(Previously Presented)** The process of claim 40, wherein a portion of said biomolecule is an linking moiety.

43. **(Original)** The process of claim 40, wherein said polymer backbone is substantially linear.

44. **(Original)** The process of claim 40, wherein said polymer is a vinyl polymer.

45. **(Original)** The process of claim 40, wherein said adsorbing moieties are amine groups.

46. **(Original)** The process of claim 42, wherein said vinyl polymer is a poly-(vinylamine).

47. **(Previously Presented)** The process of claim 40, wherein said biomolecule comprises an oligonucleotide or polynucleotide.

48. **(Previously Presented)** The process of claim 40, further comprising polymerizing an additional non-nucleotidic polymer tethered to said surface coating, said non-nucleotidic polymer comprising additional adsorbing moieties adapted to adsorb an additional biomolecule.

49. **(New)** A process for preparing a solid support capable of adsorbing a biomolecule, comprising:

(a) providing a solid support comprising a surface coating having a surface reactive site;

(b) contacting the surface coating with a homogeneous mixture of vinyl monomers; and,

(c) polymerizing said monomers to produce a solid support having a surface tethered vinyl polymer covalently linked to said surface coating, said surface tethered vinyl polymer having at least one adsorbing moiety for adsorbing a biomolecule.

50. **(New)** The process of claim 49, wherein said surface reactive site is a hydroxyl, carboxyl, amino or thiol group.

51. **(New)** The process of claim 49, wherein said polymerization is done in the presence of cerium.

52. **(New)** The process of claim 49, wherein said vinyl polymer is a poly-(vinylamine).